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10/764,461	01/27/2004	Ting-Wen Su	320528661US1	1176

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EXAMINER	
GUPTA, PARUL H	

ART UNIT	PAPER NUMBER
2627	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/764,461	SU ET AL.	
	Examiner	Art Unit	
	PARUL GUPTA	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 December 2008*.

2a)☒ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-32 are pending for examination as interpreted by the examiner. The arguments and amendment filed on 12/16/08 were also considered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-22 and 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al., US Patent Publication 2001/0026512 in view of Chiu, US Patent Publication 2005/0117222.

Regarding claims 1, 7, 13, and 32, Nishimura et al. teaches a method and apparatus (shown in figure 1) configured to generate a wobble signal of an optical-electronic system, comprising: a first operation unit (111 and 112) configured to generate a reference signal by attenuating a first input signal and a second input signal (outputs of 111 and 112) that are derived from a plurality of continuous light signals reflected from an optical storage medium (signals from a-d) according to scaling the first input signal and the second input signal, during all operating modes, by scaling factors; and using a processing unit (21 and 22) configured to process the reference signal to generate the wobble signal, wherein the plurality of continuously reflected light signals is used to derive the first input signal and the second input signal instead of a previously sampled and held signal (figure 1 shows how the signals are directly applied into the

circuitry with no sample and hold circuit in between the photodetector and the amplifiers, meaning that a previously sample and held signal can never be used) to generate the reference signal even when the optical-electronic system is recording data onto the optical storage medium (abstract). Nishimura et al. does not but Chiu specifies that the plurality of light is attenuated through a grating that utilizes the concept of fixed scaling (paragraph 0038). It would be obvious to one of ordinary skill in the art at the time of the invention to use fixed scaling instead of the AGC as taught by Chiu in the system of Nishimura et al. The motivation would be so users can choose the scale, thus expanding the applications of the device (paragraph 0038 of Chiu).

Regarding claim 2, Nishimura et al. teaches in figure 1 the method for generating a wobble signal as claimed in claim 1, wherein the plurality of light signals comprises a first light signal, a second light signal, a third light signal, and a fourth light signal that are all used for generating the reference signal continuously. Four separate signals are shown coming from each of elements a-d of elements 2 and 3 that each represent a different light signal.

Regarding claims 3 and 9, Nishimura et al. teaches in figure 1 the method for generating a wobble signal as claimed in claims 1 and 7, respectively, further comprising attenuating the first input signal and the second input signal (done by elements 113 and 114) before the first input signal and the second input signal being used to generate the reference signal (output of element 117).

Regarding claims 4, 10, and 27, Nishimura et al. teaches the method and apparatus (shown in figure 1) for generating a wobble signal as claimed in claims 3, 9,

and 23, respectively, further comprising amplifying the reference signal (done by elements 113 and 114) before the reference signal, or first input signal and the second input signal, being processed for generating the wobble signal by using an amplifier (part of elements 113 and 114) coupled between the first operation unit (elements 111 and 112) and the processing unit (elements 21 and 22).

Regarding claims 5, 11, 16, and 29, Nishimura et al. teaches in figure 1 the method and apparatus for generating a wobble signal as claimed in claims 1, 7, 13, and 28, respectively, wherein the reference signal is substantially a multiplication of another factor (amplification performed) and a difference between the first input signal and the second input signal (done by subtracting circuit of element 117).

Regarding claims 6, 12, 17, and 30, Nishimura et al. teaches the method and apparatus for generating a wobble signal as claimed in claims 5, 11, 16, and 28, respectively, wherein the other factor is based on substantial ratios of resistances among the resistors that are used for attenuating the first input signal and the second input signal. The given circuit used for attenuating the signals of elements 111-114 of figure 1 use resistors to alter the signal. Thus, the factor of multiplication is a ratio of these resistances.

Regarding claims 8 and 14, Nishimura et al. teaches in figure 1 the method and apparatus for generating a wobble signal as claimed in claims 7 and 13, respectively, wherein the plurality of continuous light signals comprises a first light signal, a second light signal, a third light signal, and a fourth light signal that are all used to derive the first input signal and the second input signal for generating the reference signal

continuously. The four separate signals are shown coming from each of elements a-d of elements 2 and 3 that each represent a different light signal.

Regarding claim 15, Nishimura et al. teaches in figure 1 the wobble signal generating apparatus as claimed in claim 14, wherein the first input signal (output of element 112) is substantial a summation of the first light signal (output of a) and the fourth light signal (output of d) and the second input signal (output of element 111) is substantial a summation of the second light signal (output of b) and the third light signal (output of c).

Regarding claim 18, Nishimura et al. teaches the wobble signal generating apparatus as claimed in claim 13, wherein the first operation unit (adding circuit of elements 111 and 112 of figure 1) comprises a non-inverting terminal, an inverting terminal and an output terminal, the non-inverting terminal receives the first input signal and the inverting terminal receives the second input signal for generating and delivering the reference signal via the output terminal (inherent operation of an adding circuit).

Regarding claim 19, Nishimura et al. teaches in figure 1 the wobble signal generating apparatus as claimed in claim 18, further comprising: a first attenuator (113) coupled with the first operation unit (111) configure to attenuate the first input signal; and a second attenuator (114) coupled with the first operation unit (112) configured to attenuate the second input signal, wherein the first input signal and the second input signal are attenuated before being used for generating the reference signal (done by 117).

Regarding claim 20, Nishimura et al. teaches the wobble signal generating apparatus as claimed in claim 19, further comprising an extra attenuator (resistor inherently part of element 111 and 112 of figure 1) coupled between the output terminal, and one of the non-inverting terminal and the inverting terminal of the first operation unit (elements 111 and 112 of figure 1). An adding circuit always has the extra resistor as described.

Regarding claim 21, Nishimura et al. teaches the wobble signal generating apparatus as claimed in claim 20, wherein the extra attenuator, the first attenuator and the second attenuator are all resistors. The configuration above explains how all attenuation is done through resistors. The high pass filters also use resistors to serve this purpose of attenuation.

Regarding claim 22, Nishimura et al. teaches the wobble signal generating apparatus as claimed in claim 13 wherein the first operation unit (111 and 112) comprises an inverting terminal, a non-inverting terminal and an operational output terminal, the inverting terminal receives the first input signal and the non-inverting terminal receives the second input signal for generating and delivering the reference signal via the output terminal. The given unit is an adder, which always has the configuration given.

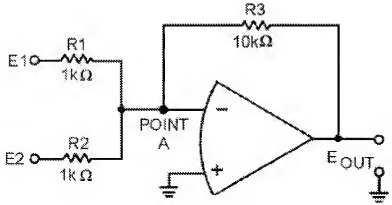
Regarding claim 28, Nishimura et al. teaches a wobble signal generating apparatus of an optical-electronic system (figure 8), comprising: a first operation circuit (112, 114, and 22) configured to continuously generate a first input signal according to a first light signal (a) reflected from an optical storage medium, a fourth light signal (d)

reflected from the optical storage medium, and a first scaling factor wherein the first operation circuit comprises: a first operational amplifier (part of 111, which is shown in more detail below labeled adder) having a first grounding non-inverting terminal, a first inverting terminal, and a first output terminal; a first resistor (R1) coupled to the first inverting terminal and receiving the first light signal; a second resistor (R2) coupled to the first inverting terminal and configured to receive the fourth light signal; and a third resistor (R3) coupled between the first inverting terminal and the first output terminal; a second operation circuit (111, 113, and 21) continuously generating a second input signal according to a second light signal (b) reflected from the optical storage medium, a third light signal (c) reflected from the optical storage medium, and a second scaling factor, wherein the second operation circuit comprises: a second operational amplifier (111) having a second grounding non-inverting terminal, a second inverting terminal, and a second output terminal; a fourth resistor (R1) coupled to the second inverting terminal and receiving the second light signal; a fifth resister (R2) coupled to the second inverting terminal and receiving the third light signal; and a sixth resistor (R3) coupled between the second inverting terminal and the second output terminal; a third operation circuit (117 and 28) configured to continuously generate a reference signal according to the first input signal and the second input signal instead of a previously sampled and held signal even when the optical-electronic system is recording data onto the optical storage medium (figure 1 shows how the signals are directly applied into the circuitry with no sample and hold circuit in between the photodetector and the amplifiers, meaning that a previously sample and held signal can never be used), wherein the third

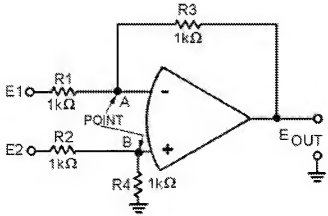
operation circuit (element 117 is shown in more detail below) comprises: a third operational amplifier having a third non-inverting terminal (E2), a third inverting terminal (E1), and a third output terminal (Eout); a seventh resistor (R1) coupled between the first output terminal and the third inverting terminal, and receiving the first input signal; an eighth resistor (R2) coupled between the second output terminal and the third non-inverting terminal, and receiving the second input signal; and a ninth resistor (R3) coupled between the third inverting terminal and the third output terminal; and a processing unit (28) configured to process the reference signal to generate the wobble signal. Nishimura et al. does not but Chiu specifies that the plurality of light is attenuated through a grating that utilizes the concept of fixed scaling (paragraph 0038). It would be obvious to one of ordinary skill in the art at the time of the invention to use fixed scaling instead of the AGC as taught by Chiu in the system of Nishimura et al. The motivation would be so users can choose the scale, thus expanding the applications of the device (paragraph 0038 of Chiu).

Regarding claim 31, Nishimura et al. teaches in figure 8 the wobble signal generating apparatus as claimed in claim 28, further comprising a gainer (28) coupled between the third operation circuit (117) and the processing unit (used to finish the process although not shown) configured to amplify the reference signal before being processed generating the wobble signal.

Adder:



Subtractor:



Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. in view of Chiu in view of Fujimura et al., US Patent 5,053,965.

Regarding claim 23, Nishimura et al. teaches in figure 1 the wobble signal generating apparatus as claimed in claim 22, further comprising: a second operation unit (113) couples to the first operation unit (111), comprising a grounding non-inverting terminal, a non-inverting terminal, and an output terminal, wherein the non-inverting terminal receives some of the plurality of reflected light signals for generating and delivering the first input signal via the output terminal; and a third operation unit (114) couples to the first operation unit (112), comprising a grounding non-inverting terminal, a non-inverting terminal, and an output terminal, wherein the non-inverting terminal receives others of the plurality of reflected light signals for generating and delivering the second input signal via the output terminal. In the given reference, elements 113 and 114 actually each comprise one grounding non-inverting terminal and one inverting terminal, although they perform the same function. Nishimura et al. does not but Fujimura et al. teaches in column 6, line 45 to column 7, line 10, the use of two non-inverting terminals to perform the same function as the inverting and non-inverting terminals of the adder and subtractor, It would be obvious to use this circuit taught by Fujimura et al. in the system of Nishimura et al. because it is an art recognized equivalent circuit that is used in the same environment, for the same purpose, to achieve the same result.

Regarding claim 24, Nishimura et al. teaches in figure 1 the wobble signal generating apparatus as claimed in claim 23, further comprising: a first attenuator (113) coupled with the first operation unit (111) configured to attenuate the first input signal; a second attenuator (114) coupled with the first operation unit (112) configured to attenuate the second input signal; a third attenuator (21) coupled with the second operation unit (113) configured to attenuate the plurality of reflected light signals; and a fourth attenuator (22) coupled with the third operation unit (114) configured to attenuate the plurality of reflected light signals, wherein the first input signal and the second input signal are attenuated before being used for generating the reference signal, and the plurality of the reflected light signals are attenuated before being used for generating the first and the second input signal (inputs to element 117).

Regarding claim 25, Nishimura et al. teaches the wobble signal generating apparatus as claimed in claim 24, further comprising: a first extra attenuator (resistor inherently part of element 111) coupled between the output terminal and one of the non-inverting terminal and the inverting terminal of the first operation unit (111); a second extra attenuator (resistor inherently part of element 112) coupled between the output terminal and the non-inverting terminal of the second operation unit (112); and a third extra attenuator (resistor inherently part of element 113) coupled between the output terminal and the non-inverting terminal of the third operation unit (113), wherein a factor substantially equal to a ratio derived from characteristic values of the first extra attenuator, the second extra attenuator, the third extra attenuator, the first attenuator,

the second attenuator, the third attenuator, and the fourth attenuator (properties of the gain of a filter).

Regarding claim 26, Nishimura et al. teaches the wobble signal generating apparatus as claimed in claim 25, wherein the first extra attenuator, the second extra attenuator, the third extra attenuator, the first attenuator, the second attenuator, the third attenuator, and the fourth attenuator are all resistors. The high pass filters and automatic gain control circuits are all comprised of resistors. Thus, the attenuation is a result of these resistances.

Response to Arguments

Applicant's arguments filed on 12/16/08 have been fully considered but they are not persuasive. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "generating a signal according to scaling the first input signal and the second input signal, during all operating modes, by fixed scaling factors") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicant contends that the use of an AGC circuit teaches away from this concept. However, the AGC of Nishimura can be replaced by fixed scaling, which is common in the art, to teach this feature.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PARUL GUPTA whose telephone number is (571)272-5260. The examiner can normally be reached on Monday through Thursday, from 10 AM to 7 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Supervisory Patent Examiner, Art Unit 2627

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Examiner, Art Unit 2627